C. Power Limits for Wide Bandwidth Emissions

55. *Power spectral density limits.* In the Notice of Proposed Rule Making, the Commission requested that commenters consider a power spectral density (*i.e.* power per unit of bandwidth) limit in the context of achieving a more "technology neutral" transmitter power output rule.[184] The Commission was concerned that a "per carrier" (or "per emission") wording, instead of the existing "per transmitter" language, would shift the burden of compliance with the transmitter output power rule from equipment manufacturers to individual licensees, who might find it impracticable to individually monitor each "carrier" (or emission).[185] Because we decided to eliminate the transmitter output power rule, the compliance burden associated with it will no longer exist. Nevertheless, our question opened the door to consideration of power spectral density limits generally.

56. The Commission seeks to promulgate rules that are "technology neutral" because we believe that ideally it is in the public interest for competing telecommunications technologies to succeed or fail in the marketplace on the basis of their merits and other market factors, and not primarily because of government regulation. It should also be understood that "technology neutral" means that our rule should neither penalize *nor give advantage to* any particular technology unnecessarily. Sometimes, however, an FCC rule adopted under earlier unknown or different technological circumstances will inadvertently affect new and evolving technologies unequally and, in fact, this may be unavoidable in some cases, if the purpose of the rule (*e.g.* avoiding harmful interference) is to be accomplished.

57. According to Motorola, adoption of a rule providing a power spectral density limit for broadband PCS can be considered in terms of leveling the competitive playing field between narrow emission and wide emission technologies.[186] Qualcomm and Motorola both argue that the current radiated power rule, by failing to taking emission bandwidth into consideration, authorizes narrow emission systems to transmit more aggregate radiated power than wide emission systems, within a given spectrum block.[187] CTIA claims that the current EIRP limit is interpreted to place a limit on the power of a single carrier but to permit multiple carriers to be transmitted from a single base station.[188] CTIA further claims that systems operating in smaller bandwidths are permitted to operate at higher power spectral density than those operating in larger bandwidths.[189] CTIA argues that technologies, such as CDMA, W-CDMA, or OFDM, that combine many voice signals onto a single combined signal and that use advanced techniques to counter multi-path fading therefore are disadvantaged by the per-carrier power constraint in the current rules. CTIA contends that removing an artificial handicap on the use of some technologies – such as W-CDMA – would facilitate the adoption and deployment of these technologies by wireless service providers.[190] Moreover, CTIA contends that researchers and inventors would no longer be constrained to give up power in order to use wider bandwidths.[191]

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[184] *Notice* at para. 18.

[185] Compare with Cingular Comments at 4, 5 ("monitoring output power on a "per RF carrier" basis is relatively straightforward and usually is not difficult or expensive for the PCS licensee").

[186] Motorola Comments at 3.

[187] *See* Motorola Comments at 2-3. *See* Qualcomm Comments at 1.

[188] CTIA February 7, 2005 *ex parte* at 2.

[189] *Id.*

[190] *Id.*

[191] *Id.*

58. Existing narrow emission PCS technologies (*i.e.* TDMA, GSM) carry 3 to 8 voice conversations per emission, while existing wide emission technologies (*i.e.* CDMA) carry as many as 20 to 40 voice conversations per emission.[192] Because the current rule makes no distinction between wide and narrow emissions, it applies the same maximum radiated power limit to both. Consequently, a wide emission system is allowed to provide only about one fifth of the radiated power for each voice conversation that a narrow emission system is allowed to provide, assuming that each system is fully loaded and operating at the maximum power permitted by rule.[193] Thus the average voice conversation on the wide emission system would have a lower signal to noise ratio, which, despite the partially compensating processing gain provided by signal spreading, would reduce the coverage range.[194] Motorola expressed a view that the Commission's current policy is biased against wider bandwidth technologies as it allows technologies that utilize a narrower bandwidth to radiate a higher power per unit bandwidth, thus placing wider bandwidth systems at a competitive disadvantage because wider bandwidth technologies will need to deploy additional infrastructure to maintain the same coverage area as narrower bandwidth technologies.[195]

59. Several of the comments reflect a concern that, if the Commission were to adopt a rule allowing more radiated power for wide emissions than for narrow emissions, the power allowed by such a rule for narrow emissions (such as GSM and TDMA) would be lower than is permitted by the current rule.[196] These commenters argue that there should be no reduction in the radiated power limit currently applicable to existing PCS systems. We note that we did not propose in the Notice to reduce the transmitting power limits for broadband PCS systems, nor do we do so here. Thus, even if we were to adopt the CTIA proposal, we assume that the current radiated power limits (1640 Watts EIRP non-rural, 3280 Watts EIRP rural) would be unchanged for all narrow emission types. The parties' comments have raised a good question however, and we seek comment on whether a power spectral density radiated power limit should be applied for narrow emissions as well as wide emissions. For example, should the radiated power limit for 30 kHz bandwidth emissions be lower than that for 200 kHz bandwidth emissions? Likewise, should the radiated power limit for 12.5 kHz bandwidth emissions be lower than that for 30 kHz bandwidth emissions?

60. One of our concerns is that a larger aggregate power presents a greater interference potential to other systems. In other words, the current rule may well allow systems employing narrow emission technologies to pose a greater interference potential than those employing wide emission technologies. We note that CTIA does not propose any upper limit or cap on radiated power under this approach, and consequently the power levels permitted under its proposal could easily reach some very large numbers (*i.e.* 32,800 Watts in a rural area) for wider emission types such as Wideband Code Division Multiple Access (W-CDMA) using 5 MHz bandwidths. Moreover, existing licensees and new entrants may not have adequate information about the types of technology being deployed in adjacent bands or areas, including system architecture, nor the locations of base stations that could cause

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[192] Table 2, *infra*, sets forth the typical emission bandwidths for TDMA/GSM systems vs. CDMA systems.

[193] We are not saying that it is realistic to assume that PCS systems ordinarily operate fully-loaded and at the maximum power permitted by rule. But one must do so if the claim is to be made that the current rule treats one technology different from another technology having a different emission bandwidth.

[194] We note that in the case of data technologies such as CDMA-2000 1xEV-DO, reduced signal to noise ratio results in a lower data throughput. *See* Qualcomm, Inc. White Paper, "*1xEV: 1x Evolution IS-856 TIA/EIA Standard, Airlink Overview*", dated November 7, 2001 at 10.

[195] Motorola Comments at 3.

[196] *See, e.g.*, Ericsson Comments at 9.

interference. This additional interference risk with limited information could lead to difficult negotiating positions among adjacent systems using different technologies, which could hinder coordination procedures that have been at the heart of the success of interference avoidance in the broadband PCS service, and which will be applied to other flexible use bands (*e.g.* Part 27 AWS). In considering the issue of whether to adopt a radiated power limit rule that would allow more power for wider bandwidth emissions, we must consider the primary objective of the rule, which is to limit interference potential between licensees. How should the Commission balance the interference potential of various technologies and facilitate information sharing in order to facilitate inter-system coordination negotiations between licensees?

61. If we ultimately decide to adopt a rule that allows a higher radiated power limit for wide emissions than for narrow emissions, we must define which emissions types are wide and which are narrow, and the basis for that classification. We note that typical systems using emissions that have a bandwidth wider than 1 MHz re-use the same channels in every cell, whereas systems using emissions with a bandwidth less than 1 MHz use a cellular frequency re-use pattern where different channel sets are used in adjacent cells.[197] Another way of describing this is that systems using emissions that have a bandwidth wider than 1 MHz use their entire spectrum contiguously in each cell, whereas systems using emissions with a bandwidth less than 1 MHz use at each cell a number of narrower channels separated by several channels not used in that cell. We note that Motorola proposes in its earlier filings to utilize a bandwidth of 1 MHz as the dividing line.[198] The CTIA proposal, however, results in the division between narrow and wide emission bandwidths occurring at 500 kHz rather than 1 MHz. We believe however, that if a technology is developed using a 500 kHz-1MHz bandwidth, the technology is more likely to use different channels at different cells like other narrowband systems, rather than use a spread spectrum approach as is typically used in wideband systems. Accordingly, if we were to adopt a spectral density model similar to what CTIA proposes, we seek comment on whether to use 500 kHz, 1 MHz, or some other emission bandwidth as the dividing point between narrow and wide emissions, noting that we seek to logically divide wireless technologies into two groups that use differing system architectures.[199]

62. Adoption of a radiated power rule that allows more power for wide emissions than for narrow emissions also raises a number of questions in regard to implementation. A "Watts per MHz" power spectral density limit, such as the CTIA proposal includes for wider bandwidth emissions, would define power limits based on a sliding scale with a potentially infinite number of linear scaled limit values.[200] Initially, we question whether this is the best way to structure a radiated power limit rule for PCS and other flexible services. An alternative would be to use a "step" approach, with specific power limits for particular bandwidth ranges, which could perhaps be set forth in a table to make clear what limit is applicable in any given instance.[201] For an analogy, if it were desired in the interest of highway safety to require heavier vehicles to travel slower than lighter vehicles, it may make more sense to simply have

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[197] *See* Qualcomm Reply Comments at 2.

[198] Motorola Comments at 3. We note that Motorola now supports the CTIA proposal.

[199] *See* Table 2, *infra*, for a list of technologies that fall into the two main groups of system architectures (*e.g.* wideband or narrowband).

[200] We note that radiated power (*i.e.* EIRP) is not directly measured. Instead, EIRP is calculated by measuring the RF power at a convenient point in the transmission line between the transmitter and the antenna feed line, subtracting the specified system losses, and adding the specified maximum antenna gain. See full discussion of EIRP and ERP terms and definitions at paragraphs 10 – 11, *supra*.

[201] It is for this reason that we have in many instances over the years adopted tables for antenna height power reduction instead of the graphical curves that we used to have in our rules.

two posted speed limits, one for automobiles and another for heavier vehicles such as trucks, rather than to adopt a "mph per ton of vehicle" ratio that would likely result in a different individual speed limit being applicable to each model of car or truck in accordance with how much that particular model weighs. While the latter might be more accurate in terms of equalizing the momentum of vehicles, the gained accuracy is greatly outweighed by the resultant complexity and difficulty in determining compliance. CTIA apparently differs with this assessment, stating that a "stepped limit" would be less appropriate than a power spectral density applied to "every contiguous 1 MHz region in the relevant band,"[202] but offers no reasons, however, for that particular position. We therefore seek comment on whether, if we decide to allow higher radiated power for wide emission types, this power should be expressed in terms of a specific limit or series of limits for various emission bandwidths. We note that this could be easily codified in table form, as illustrated below. The simplest proposal would involve having only four power radiated limits: rural and non-rural power limits for wide emissions (for example, emissions with bandwidth exceeding 1 MHz), and rural and non-rural power limits for narrow bandwidth emissions.[203]

Table 1 PCS Maximum EIRP Limits

Emission Bandwidth	Non-rural	Rural
< 1 MHz (narrow)	1640 Watts (no change)	3280 Watts (no change)
≥ 1 MHz (wide)	3280 Watts (for example)	6560 Watts (for example)

63. Another possible variation is the use of a series of radiated power limits corresponding to six common existing emission bandwidths as illustrated in Table 2: 6.25 kHz, 12.5 kHz, 16/20/25/30 kHz, 200 kHz, 1.25 MHz, 4.3/5 MHz. The value of each radiated power limit would be chosen as appropriate to the technologies commonly deployed in that emission bandwidth, and thus the power levels would not necessarily be linearly scaled by bandwidth or otherwise related to each other, as would be the case with a pure power spectral density limit. Would the benefit of having custom tailored power levels for each common bandwidth justify the added complexity of an increased number of limits? What would be appropriate power levels for these emission bandwidths? We seek comment on these methods for providing higher radiated power limits for systems employing emissions with wider bandwidths and any other alternatives, including CTIA's preferred sliding scale approach in terms of "Watts per MHz."

Table 2 PCS Maximum EIRP Limits

Emission Bandwidth	Example Technologies	Non-rural	Rural
1 to 10 kHz (very narrow)	FSK (digital voice)	410 Watts (for example)	820 Watts (for example)
10 kHz to 15 kHz (narrow)	NBFM, FSK	820 Watts (for example)	1640 Watts (for example)
15 kHz to 150 kHz (medium)	FM, AMPS, iDEN	1640 Watts (no change)	3280 Watts (no change)
150 kHz to 1 MHz (medium wide)	GSM, EDGE	1640 Watts (no change)	3280 Watts (no change)
1 MHz to 3 MHz (wide)	CDMA, 1X-EVDO, OFDM	3280 Watts (for example)	6560 Watts (for example)

[202] CTIA *ex parte* February 7, 2005 at 5.

[203] Additionally, we would apply an antenna height power reduction table for base stations having antenna heights above average terrain of more than 300 meters. This would require a certain amount of power reduction (expressed in dB) for each of a series of antenna heights.

> 3 MHz (very wide)	CDMA2000-3X, WCDMA	6560 Watts (for example)	13,120 Watts (for example)

D. Radiated Power Limit Increases

64. Some of the commenters propose not only to allow more radiated power for wide emission systems relative to narrow emission systems, but also to increase the overall radiated power limit substantially over that permitted by the current rule. For example, Ericsson originally proposed to increase the maximum radiated power limit for non-rural broadband PCS from 1640 to 6560 Watts EIRP, and QUALCOMM proposed that the limit be increased similarly for wide emissions. We reiterate that, using an open-ended power spectral density limit such as that in the CTIA proposal, permissible radiated power could reach very high power levels for very wide emission systems (*e.g.* 16,400 Watts for a 5 MHz emission bandwidth in non-rural areas and 32,800 Watts for a 5 MHz emission bandwidth in rural areas).

65. We seek comment on whether these maximum power levels now being proposed by the parties for our rules may be far above power levels that licensees actually use in their systems. Do existing licensees use as much radiated power in their systems as is permitted by the current PCS radiated power rule? In this light, we ask what marginal benefit would be realized by further overall increases in our radiated power limits for broadband PCS or other flexible wireless services? We believe that our radiated power rule should be as flexible as possible, but it should also reflect realistic limits that are comparable to necessary power levels. We seek comment on how such levels should also accommodate implementation of future technologies and current situations that may prove unusual or exceptional, without imposing undue regulatory burdens or unnecessary risks of harmful interference. One reason to avoid unrealistically high limits in our rules would be, as CTIA has suggested, if we also were to specify radiated power limits in terms of average power instead of peak power (see discussion below). To build an adequate record on whether there is any routine or extraordinary need for very high power operation, we request that commenters supporting higher overall limits provide examples of actual situations in which licensees could beneficially use radiated power levels on the order of what is being proposed by the parties. Are there particular coverage or service quality problems that could be solved by such an increase? What effect would increased radiated power have on the potential for harmful interference to adjacent spectrum users?

66. If we were to increase radiated power levels as CTIA proposes, it may be necessary to enhance coordination efforts between licensees, which will assist these licensees in minimizing instances of interference. We note that current rules do not require broadband PCS licensees to notify the Commission of the location of existing transmitter sites. We therefore seek comment on possible methods to improve information sharing among licensees, including comment on the types of circumstances that would trigger information disclosure or sharing requirements. For example, we note that an industry association made up of representatives of many current licensees has established a detailed protocol for exchanging technical information.[204] We seek comment on whether this existing sharing protocol will be sufficient if we were to raise radiated power levels as CTIA proposes. As an alternative, should we require such licensees to notify adjacent licensees about the technical specifications of such base station prior to commencing operation, or should we require licensees (or lessees, in the case of secondary markets) to register such stations in ULS?

67. Finally, we seek comment regarding whether radiated power limit increases will impact

[204] *See* "Inter-PCS Co-Block Coordination Procedures," National Spectrum Managers Association, Recommendation WG 20.97.048, Rev. 1.0, January, 1999, available at www.nsma.org.

licensee's administrative burden in making filings required for proper evaluation of transmission sites in regard to environmental compliance. We note that wireless systems, including broadband PCS systems, are subject to environmental evaluation with respect to human exposure of RF radiation for non-building mounted antennas when the antenna height above ground level is less than 10 meters and the total power of all channels is greater than 2000 watts ERP and for building mounted antennas when the total power from all channels is greater than 2000 watts ERP. Otherwise, these systems are categorically excluded from such environmental evaluation.[205] We note that we are not proposing any change to RF exposure standards, and that CTIA "sees no connection between its proposal and RF exposure limits."[206] However, we seek comment as to whether adoption of higher radiated power limits would increase the number of facilities requiring full environmental evaluation rather than being categorically excluded, and whether adoption of higher radiated power limits would outweigh any possible increased administrative burden. We also note that engineers considering the RF environment at a site location which includes a PCS cell may not in fact know the exact operating power of all the transmitters at that location, since that information is not collected by Commission and is not typically made available by licensees. Nonetheless, we find it reasonable that an engineer assume that the power is no greater than our rules permit. How would an increase in the radiated power limits affect the ability of consultants to analyze a site? Would high power use "lock out" other users from co-locating at a site, because to do so would exceed the RF exposure limits?

E. Peak vs. Average Radiated Power Limits

68. For most of the last 50 years, wireless telecommunications services such as land mobile and public mobile telephone services, including analog cellular, used frequency or phase modulation (FM or PM) to transmit analog voice and/or tone modulation. The emissions from these older technologies have a "constant envelope," which is to say, there are no peaks or valleys in the envelope of the modulated waveform. As a result, the peak power of such emissions is equal to the average power. In our power limit rules for private and public land mobile services, we did not need to specify either "peak"[207] or "average"[208] because the two were equal.

69. In recent years, we have allowed greater technical flexibility in many of our wireless services so that licensees could utilize newer technologies without having to obtain prior FCC approval. As a result, licensees in these services have employed a variety of newer and more efficient digital technologies, many of which produce an emission where the modulation envelope is not of constant amplitude. With these emissions, the peak power is larger than the average power, and the ratio between the two is referred to as the peak-to-average ratio (PAR). Because the PAR can vary from 0 dB to as much as 13 dB, depending on the technology used and the modulation conditions, stations having equal average radiated powers could have substantially different peak radiated powers. Because receivers often begin to exhibit interference effects when the power of an undesired signal exceeds a certain value, even if only for a short duration, the peak radiated power of the emission can be an important factor in

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[205] *See* 47 C.F.R. § 1.1307.

[206] CTIA *ex parte* filed February 7, 2005 at 6.

[207] Peak power or "Peak Envelope Power" is defined as the average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope taken under normal operating conditions. *See* Commission rule § 2.1, 47 C.F.R. § 2.1.

[208] Average or "mean" power is defined as the average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions. *See* Commission rule § 2.1, 47 C.F.R. § 2.1.

evaluating the interference potential of a transmitting station.[209] Consequently, the Commission has in recent years adopted rules in our flexible services that limit peak radiated power rather than average radiated power.

70. The CTIA filing states that the Commission's use of peak radiated power is subject to interpretation and could lead to confusion and proposes that the Commission's radiated power limits for PCS and AWS be specified in terms of average power, either instead of, or as an alternative to, peak power.[210] CTIA points out that when several signals are present in an amplifier, that they can combine to produce high peaks even though individually they would not have high peaks.[211] Given this concern, we seek comment as to whether we should depart from the Commission's practice of specifying peak radiated power and specify average radiated power as CTIA proposes. We note that the peak power of a radiated emission is always equal to or higher than the average power. Under the CTIA proposal, peak power could reach levels much higher than the increased limits CTIA recommends for the rule. If we specify average radiated power, should we also include a limit on the PAR, in order to guard against interference, and what should that limit be? We request that commenters consider the pros and cons of peak and average radiated power limits in terms of controlling the interference potential of stations, conforming to current industry measurement procedures using available measuring instruments, minimizing the burden of compliance with the rules, and having applicability to the wide range of technologies in use today and in the future.

V. PROCEDURAL MATTERS

A. Comment Filing Procedures

71. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments and reply comments on the Further Notice of Proposed Rulemaking, WT Docket No. 03-264, on or before 60 and 90 days after publication in the Federal Register, respectively. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- *Electronic Filers*: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/cgb/ecfs/ or the Federal eRulemaking Portal: http://www.regulations.gov. Filers should follow the instructions provided on the website for submitting comments.
  - For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by

[209] Although the peak power transmitted, resulting from the modulation envelope, is used in determining interference potential, peaks in the received signal resulting from fading in the propagation path are not. The latter are normally accounted for by use of a reliability factor (or fade margin) that is included in the criteria (*e.g.* D/U ratio) used for evaluating interference, or by using a field strength curve that has been adjusted from the median field strength by such a factor.

[210] CTIA *ex parte* February 7, 2005 at 5.

[211] *Id.* at 6. We note that the Commission's current radiated power rule applies individually to each emission, and not to the combination of several of them.

Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

- *Paper Filers*: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

  Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

  - The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

  - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

  - U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12th Street, SW, Washington DC 20554.

  People with Disabilities: Contact the FCC to request materials in accessible formats (braille, large print, electronic files, audio format, etc.) by e-mail at FCC504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

B. *Ex Parte* Rules —Permit-But-Disclose

72. This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed pursuant to the Commission's rules.[212]

C. Congressional Review Act

73. The Commission will send a copy of the *Report and Order*, including a copy of the Final Regulatory Flexibility Certification, in a report to Congress pursuant to the Congressional Review Act.[213] In addition, the *Report and Order* and the final certification will be sent to the Chief Counsel for Advocacy of the SBA, and will be published in the Federal Register.[214]

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[212] *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206.

[213] *See* 5 U.S.C. § 801(a)(1)(A).

[214] *See* 5 U.S.C. § 605(b).

D. Final Regulatory Flexibility Certification

74. The Regulatory Flexibility Act of 1980, as amended (RFA),[215] requires that a regulatory flexibility analysis be prepared for notice-and-comment rule making proceedings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[216] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[217] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[218] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[219]

75. As required by the RFA, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice*,[220] which commenced a proceeding to streamline and harmonize licensing provisions in the wireless radio services (WRS). The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA. This Final Regulatory Flexibility Certification conforms to the RFA.[221]

76. This *Report and Order* adopts several measures intended to streamline and harmonize certain licensing provisions in the wireless radio services (WRS) and further Commission efforts to maintain clear spectrum rights and obligations for these licensees, fulfill the Commission's mandate under Section 11 of the Communications Act to conduct biennial reviews, support recent efforts to maximize the public benefits derived from the use of the radio spectrum, and increase the ability of wireless service providers to use licensed spectrum resources flexibly and efficiently to offer a variety of services in a cost-effective manner.

77. The *Report and Order* resolves the question of whether relevant provisions should be (1) streamlined as a result of competitive, technological, or subsequent administrative rule changes and/or (2) harmonized because they treat similarly situated services differently. The Order accomplishes this primarily by eliminating provisions when necessary and modifying provisions when appropriate. For example, as we have done in recent years in adopting modulation-independent masks (emission masks D, E, and F), we conform the Emission Mask G rule to the others and place no limitation on the spectral power density profile within the maximum authorized bandwidth. This action, supported by all

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[215] The RFA, *see* 5 U.S.C. § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[216] 5 U.S.C. § 605(b).

[217] 5 U.S.C. § 601(6).

[218] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[219] 15 U.S.C. § 632.

[220] *See* In the Matter of Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket No. 03-264, *Notice of Proposed Rulemaking*, 19 FCC Rcd 708, 729 (2004) (*Notice*).

[221] *See* 5 U.S.C. § 605(b).

commenting parties, will improve design flexibility while maintaining interference control, thus creating, we believe, no significant adverse economic impact.

78. Also, we modified our rules to remove the distinction between urban and suburban sites when setting the maximum power and antenna height limits for conventional 800 MHz and 900 MHz systems. Our experience has been that there is no bright line distinction between the operational requirements of urban and suburban systems. In fact, because they might need to cover larger geographic areas than their urban counterparts, suburban facilities arguably could require greater power. In general, we found that "urban" versus "suburban" thresholds actually increase infrastructure and compliance costs, without providing any countervailing public interest benefit. We found that removing those distinctions might actually eliminate or significantly reduce those compliance costs. Therefore, we certify that the requirements of the *Report and Order* will not have a significant economic impact on a substantial number of small entities.

E. Initial Regulatory Flexibility Analysis

79. As required by the Regulatory Flexibility Act,[222] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities of the proposals addressed in the Further Notice of Proposed Rulemaking. The IRFA is set forth in Appendix D. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the Further Notice of Proposed Rulemaking, and they should have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the *Notice* of Proposed Rulemaking, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[223]

F. Paperwork Reduction Act of 1995

80. This document does not contain any proposed, new, or modified information collection subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198. *See* 44 U.S.C. 3506(c)(4).

G. Contact Information

81. The primary Wireless Telecommunications Bureau contacts for this proceeding are Wilbert E. Nixon, Jr., and B.C. "Jay" Jackson, Jr. of the Wireless Telecommunications Bureau's Mobility Division (202-418-0620). Press inquiries should be directed to Chelsea Fallon, Wireless Telecommunications Bureau, at (202) 418-7991, TTY at (202) 418-7233, or e-mail at Chelsea.Fallon@fcc.gov.

VI. ORDERING CLAUSES

82. IT IS ORDERED that, pursuant to the authority of sections 4(i), 7, 11, 303(c), 303(f), 303(g), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), 303(r), and 332, the rule changes specified in Appendix A ARE ADOPTED.

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[222] *See* 5 U.S.C. § 603.

[223] *See* 5 U.S.C. § 603(a).

83. IT IS FURTHER ORDERED that the rule changes set forth in Appendix A WILL BECOME EFFECTIVE 60 days after publication in the *Federal Register*.

84. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Certification and the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Rule Changes

Part 1 of Title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 154(i), 154(j), 155, 225, 303(r), 309 and 325(e).

2. The title of Part I, Subpart F is revised to read as follows:

Subpart F – Wireless Radio Services Applications and Proceedings

3. Section 1.927 is amended by revising paragraph (g) to read as follows:

§ 1.927 Amendment of applications.

* * * * *

(g) Where an amendment to an application specifies a substantial change in beneficial ownership or control (*de jure* or *de facto*) of an applicant, the applicant must provide an exhibit with the amendment application containing an affirmative, factual showing as set forth in § 1.948(i)(2).

* * * * *

4. Section 1.929 is amended by revising paragraph (c) to read as follows:

§ 1.929 Classification of filings as major or minor.

* * * * *

(c) In addition to those changes listed in subparagraph (a) above, the following are major changes applicable to stations licensed to provide base-to-mobile, mobile-to-base, mobile-to-mobile on a site-specific basis:

(1) In the Paging and Radiotelephone Service, Rural Radiotelephone Service and 800 MHz Specialized Mobile Radio Service (SMR), any change that would increase or expand the applicant's existing composite interference contour.

(2) In the 900 MHz SMR and 220 MHz Service, any change that would increase or expand the applicant's service area as defined in the rule parts governing the particular radio service.

(3) In the Paging and Radiotelephone Service, Rural Radiotelephone Service, Offshore Radiotelephone Service, and Specialized Mobile Radio Service:

(i) Request an authorization or an amendment to a pending application that would establish for the filer a new fixed transmission path;

(ii) Request an authorization or an amendment to a pending application for a fixed station (i.e., control, repeater, central office, rural subscriber, or inter-office station) that would increase the effective radiated power, antenna height above average terrain in any azimuth, or relocate an existing transmitter;

(4) In the Private Land Mobile Radio Services (PLMRS), the remote pickup broadcast auxiliary service, and GMRS systems licensed to non-individuals

(i) Change in frequency or modification of channel pairs, except the deletion of one or more frequencies from an authorization;

(ii) Change in the type of emission;
(iii) Change in effective radiated power from that authorized or, for GMRS systems licensed to non-individuals, an increase in the transmitter power of a station;
(iv) Change in antenna height from that authorized;
(v) Change in the authorized location or number of base stations, fixed, control, except for deletions of one or more such stations or, for systems operating on non-exclusive assignments in GMRS or the 470-512 MHz, 800 MHz or 900 MHz bands, a change in the number of mobile transmitters, or a change in the area of mobile transmitters, or a change in the area of mobile operations from that authorized;
(vi) Change in the class of a land station, including changing from multiple licensed to cooperative use, and from shared to unshared use.

* * * * *

5. Section 1.939 is amended by revising paragraph (b) to read as follows:

§ 1.939 Petitions to deny.

* * * * *

(b) *Filing of petitions.* Petitions to deny and related pleadings may be filed electronically via ULS. Manually filed petitions to deny must be filed with the Office of the Secretary, 445 Twelfth Street, S.W., Room TW-B204, Washington, DC 20554. Attachments to manually filed applications may be filed on a standard 31/4" magnetic diskette formatted to be readable by high density floppy drives operating under MS-DOS (version 3.X or later compatible versions). Each diskette submitted must contain an ASCII text file listing each filename and a brief description of the contents of each file on the diskette. The files on the diskette, other than the table of contents, should be in Adobe Acrobat Portable Document Format (PDF) whenever possible. Petitions to deny and related pleadings must reference the file number of the pending application that is the subject of the petition.

* * * * *

6. Section 1.955 is amended by revising paragraph (a) to read as follows:

§ 1.955 Termination of authorizations.

(a) * * *

(1) * * *

(2) *Failure to meet construction or coverage requirements.* Authorizations automatically terminate, without specific Commission action, if the licensee fails to meet applicable construction or coverage requirements. *See* § 1.946(c) of this part.

* * * * *

Part 22 of Title 47 of the Code of Federal Regulations is amended as follows:

7. The authority citation for Part 22 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 222, 303, 309 and 332.

8. Section 22.303 is amended to read as follows:

§ 22.303 Retention of station authorizations; identifying transmitters.

The current authorization for each station, together with current administrative and technical information concerning modifications to facilities pursuant to § 1.929 and added facilities pursuant to § 22.165 must be retained as a permanent part of the station records. A clearly legible photocopy of the authorization must be available at each regularly attended control point of the station, or in lieu of this photocopy, licensees may instead make available at each regularly attended control point the address or location where the licensee's current authorization and other records may be found.

9. Section 22.947 is amended by revising paragraph (c) to read as follows:

§ 22.947 Five year build-out period.

* * * * *

(c) *System information update.* Sixty days before the end of the five year build-out period, the licensee of each cellular system authorized on each channel block in each cellular market must file, in triplicate, a system information update (SIU), comprising a full size map, a reduced map, and an exhibit showing technical data relevant to determination of the system's CGSA. Separate maps must be submitted for each market into which the CGSA extends, showing the extension area in the adjacent market. Maps showing extension areas must be labeled (i.e. marked with the market number and channel block) for the market into which the CGSA extends. SIUs must accurately depict the relevant cell locations and coverage of the system at the end of the five year build-out period. SIUs must be filed at the Federal Communications Commission, Wireless Telecommunications Bureau, Mobility Division, 445 12th Street, SW, Washington, DC 20554. If any changes to the system occur after the filing of the SIU, but before the end of the five year build-out period, the licensee must file, in triplicate, additional maps and/or data as necessary to insure that the cell locations and coverage of the system as of the end of the five year build-out period are accurately depicted.

10. Section 22.948 is amended by revising paragraph (d) to read as follows:

§ 22.948 Partitioning and Disaggregation.

* * * * *

(d) *License Term.* The license term for the partitioned license area and for disaggregated spectrum shall be the remainder of the original cellular licensee's or the unserved area licensee's license term.

11. Section 22.949 is amended by revising paragraph (d) to read as follows:

§ 22.949 Unserved area licensing process.

* * * * *

(d) *Limitations on amendments.* Notwithstanding the provisions of § 1.927, Phase I applications are subject to the following additional limitations in regard to the filing of amendments.

(1) * * *

* * * * *

12. Section 22.953 is amended by revising paragraph (b) and (c) to read as follows:

§ 22.953 Content and form of applications.

* * * * *

(b) *Existing systems--major modifications*. Licensees making major modifications pursuant to § 1.929(a)-(b) must file FCC Form 601 and need only contain the exhibits required by paragraphs (a)(1) through (a)(3) of this section.

(c) *Existing systems--minor modifications*. Licensees making minor modifications pursuant to § 1.929(k)--in which the modification causes a change in the CGSA boundary (including the removal of a transmitter or transmitters)--must notify the FCC (using FCC Form 601) and include full-sized maps, reduced maps, and supporting engineering exhibits as described in paragraphs (a)(1)-(3) of this section. If the modification involves a contract SAB extension, it must include a statement as to whether the five-year build-out for the system on the relevant channel block in the market into which the SAB extends has elapsed, and as to whether the SAB extends into any unserved area in that market.

Part 24 of Title 47 of the Code of Federal Regulations is amended as follows:

13. The authority citation for Part 24 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 309 and 332.

14. Section 24.12 is amended to read as follows:

§ 24.12 Eligibility.

Any entity, other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

15. Section 24.232 is revised to read as follows:

§ 24.232 Power and antenna height limits.

(a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below. *See* Sec. 24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; *see* Table 1 of this section. The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply.

Table 1--Reduced Power for Base Station Antenna Heights Over 300 Meters

HAAT in meters	Maximum EIRP watts
≤300	1640
≤500	1070
≤1000	490
≤1500	270
≤2000	160

(b) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, are limited to 3280 watts peak equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT; *See* Sec. 24.53 for HAAT calculation method. Base station antenna heights may exceed 300 meters with a corresponding reduction in power; *see* Table 2 of this section. The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply. Operation under this paragraph must be coordinated in advance with all PCS licensees within 120 kilometers (75 miles) of the base station and is limited to base stations located more than 120 kilometers (75 miles) from the Canadian border and more than 75 kilometers (45 miles) from the Mexican border.

Table 2--Reduced Power for Base Station Antenna Heights Over 300 Meters

HAAT in meters	Maximum EIRP watts
≤300	3280
≤500	2140
≤1000	980
≤1500	540
≤2000	320

(c) Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

(d) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

16. Section 24.843 is removed.

Part 27 of Title 47 of the Code of Federal Regulations is amended as follows:

17. The authority citation for Part 27 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 307, 309, 332, 336, and 337 unless otherwise noted.

18. Section 27.3 is amended by redesignating paragraphs (o) and (p) as (p) and (q) and adding paragraph (o) to read as follows:

§ 27.3 Other applicable rule parts.

* * * * *

(o) *Part 74*. This part sets forth the requirements and conditions applicable to experimental radio, auxiliary, special broadcast and other program distributional services.

* * * * *

Part 90 of Title 47 of the Code of Federal Regulations is amended as follows:

19. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

20. Section 90.20 is amended by revising the Public Safety Pool Frequency Table of Section 90.20(c)(3) (Frequencies.) to replace limitation 77 with 78 for frequency 35.02 Megahertz; replace limitation 27 with 17 for frequency 42.40 Megahertz; replace limitation 19 with 29 for frequency 152.0075 Megahertz; replace frequency 158.4725 Megahertz with 159.4725 Megahertz; remove limitation 43 for frequencies 156.165, 156.1725, 156.180, 156.1875, 156.195, 156.2025, 156.225, 156.2325, 156.240, 158.985, 158.9925, 159.000, 159.0075, 159.015, 159.0225, 159.045, 159.0525, 159.060, 159.0675, 159.075, 159.0825, 159.105, 159.1125, 159.120, 159.1275, 159.135, 159.1425, 159.165 and 159.1725 Megahertz; and remove the frequency coordinator designation for frequencies 220.8025, 220.8075, 220.8125, 220.8175, 220.8225, 220.8275, 220.8325, 220.8375, 220.8425, 220.8475, 221.8025, 221.8075, 221.8125, 221.8175, 221.8225, 221.8275, 221.8325, 221.8375, 221.8425 and 221.8475 Megahertz.

21. Section 90.20 is further amended by replacing limitation 38 with 10 in the Public Safety Pool Frequency Table of Section 90.20(c)(3) (Frequencies.) for frequencies 155.325, 155.3325, 155.355, 155.3625, 155.385, 155.3925, 155.4, 155.4075, 462.9375, 462.95625, 462.9625, 462.96875, 462.975, 462.98125, 462.9875, 462.99375, 467.95, 467.95625, 467.9625, 467.96875, 467.975, 467.98125, 467.9875 and 467.99375, and by removing paragraph (d)(38) and adding a new paragraph (d)(38) to read as follows:

§ 90.20 Public Safety Pool.

* * * * *

(d) * * *

(1) * * *

* * * * *

(38) [Reserved]

* * * * *

22. Section 90.35 is amended by deleting the duplicate entry of "Frequency 35.48 Megahertz" of the Industrial/Business Pool Frequency Table of Section 90.35(b)(3) and by removing paragraph (c)(45) and adding a new paragraph (c)(45) to read as follows:

§ 90.35 Industrial/Business Pool.

* * * * *

(c) * * *

(1) * * *

* * * * *

(45) [Reserved]

* * * * *

23. Section 90.149 is amended by removing paragraph (d) and revising paragraph (a) to read as follows:

§ 90.149 License term.

(a) Except as provided in subpart R of this part, licenses for stations authorized under this part will be issued for a term not to exceed ten (10) years from the date of the original issuance or renewal.

(b) * * *

(c) * * *

24. Section 90.175 is amended by revising paragraph (j) to read as follows:

§ 90.175 Frequency coordinator requirements.

* * * * *

(j) The following applications need not be accompanied by evidence of frequency coordination:

(1) Applications for frequencies below 25 MHz.
(2) Applications for a Federal Government frequency.
(3) Applications for frequencies in the 72-76 MHz band except for mobile frequencies subject to § 90.35(c)(77).
(4) Applications for a frequency to be used for developmental purposes.
(5) Applications in the Industrial/Business Pool requesting a frequency designated for itinerant operations, and applications requesting operation on 154.570 MHz, 154.600 MHz, 151.820 MHz, 151.880 MHz, and 151.940 MHz.
(6) Applications in the Radiolocation Service.
(7) Applications filed exclusively to modify channels in accordance with band reconfiguration in the 806-824/851-869 band.
(8) Applications for frequencies listed in the SMR tables contained in §§ 90.617 and 90.619.
(9) Applications indicating license assignments such as change in ownership, control or corporate structure if there is no change in technical parameters.
(10) Applications for mobile stations operating in the 470-512 MHz band, 764- 776/794-806 MHz band, or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis in the proposed area of operation.
(11) Applications for add-on base stations in multiple licensed systems operating in the 470-512 MHz, 764-776/794-806 MHz band, or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis.
(12) Applications for control stations operating below 470 MHz, 764-776/794- 806 MHz, or above 800 MHz and meeting the requirements of § 90.119(b).
(13) Except for applications for the frequencies set forth in §§ 90.719(c) and 90.720, applications for frequencies in the 220-222 MHz band.
(14) Applications for a state license under § 90.529.
(15) Applications for narrowband low power channels listed for itinerant use in § 90.531(b)(4).
(16) Applications for DSRCS licenses (as well as registrations for Roadside Units) in the 5850-5925 GHz band.
(17) Applications for the deletion of a frequency and/or transmitter site location.

25. Section 90.210 is amended by removing 90.210(g)(1) and redesignating paragraphs (2) and (3) as paragraphs (1) and (2), and by revising paragraph (m) to read as follows:

§ 90.210 Power and antenna height limits.

* * * * *

(g) Emission Mask G. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 10 kHz, but no more than 250 percent of the authorized bandwidth:

At least 116 log (fd/6.1) dB, or 50 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation; and

(2) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

* * * * *

(m) Other frequency bands. Transmitters designed for operation under this part on frequencies other than listed in this section must meet the emission mask requirements of Emission Mask B. Equipment operating under this part on frequencies allocated to but shared with the Federal Government, must meet the applicable ITU Regulation S3.10 technical standards.

26. Section 90.607 is amended by removing paragraph (a) and redesignating paragraphs (b), (c), (d), and (e) as paragraphs (a), (b), (c), and (d) to read as follows:

§ 90.607 Supplemental information to be furnished by applicants for facilities under this subpart.

(a) Except for applicants for SMR licenses, all applicants for conventional radio systems must:
(1) List all radio systems licensed to them or proposed by them within 64 km (40 mi.) from the location of the base station transmitter site of the facility for which they have applied.
(2) Specify the number of mobile units to be placed in operation upon grant of the authorization and the number of such units that will be placed in operation within 8 months of the date of grant.

(b) Except for applicants for SMR licenses, all applicants for trunked systems must:
(1) List all radio systems licensed to them within 64 km (40 mi.) from the location of the base station transmitter site of the facility for which they have applied;
(2) Specify the number of vehicular and portable mobile units and control stations to be placed in operation within the term of the license.

(c) [Reserved]

(d) Except for applicants requesting frequencies in the SMRS category listed in §§ 90.617(d) and 90.619, all applicants for frequencies governed by this subpart must comply with the frequency coordination requirements of § 90.175(b).

27. Section 90.631 is amended by revising paragraphs (b) and (d) and removing paragraph (i) to read as follows:

§ 90.631 Trunked systems loading, construction and authorization requirements.

(a) * * *

(b) Each applicant for a non-SMR trunked system must certify that a minimum of seventy (70) mobiles for each channel authorized will be placed into operation within five (5) years of the initial license grant.

(c) * * *

(d) In rural areas, a licensee of a trunked system may request to increase its system capacity by five more channels than it has constructed without meeting the loading requirements specified in paragraphs (b) and (c) of this section. A rural area is defined for purposes of this section as being beyond a 100-mile radius of the designated centers of the following urbanized areas:

New York, NY; Los Angeles, CA; Chicago, IL; Philadelphia, PA: San Francisco, CA; Detroit, MI; Boston, MA; Houston, TX; Washington, DC; Dallas-Fort Worth, TX; Miami, FL; Cleveland, OH; St. Louis, MO; Atlanta, GA; Pittsburgh, PA; Baltimore, MD; Minneapolis-St. Paul, MN; Seattle, WA; San Diego, CA; and Tampa-St. Petersburg, FL. The coordinates for the centers of these areas are those referenced in § 90.635, except that the coordinates (referenced to North American Datum 1983 (NAD83)) for Tampa-St. Petersburg are latitude 28[deg] 00[min] 1.1[sec] N, longitude 82[deg] 26[min] 59.3[sec] W.

* * * * *

28. Section 90.635 is amended by removing paragraphs (a) and (b), Tables 1, 3 and 4, and redesignating paragraphs (c) and (d) as paragraphs (a) and (b) and revising the new paragraph (a) and redesignating Table 2 as Table and revising to read as follows:

§ 90.635 Limitations on power and antenna height.

(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Table -- Equivalent Power and Antenna Heights for Base Stations in the 851-869 MHz and 935-940 MHz Bands Which Have a Requirement for a 32 km (20 mi) Service Area Radius

Antenna height (ATT) meters (feet)	Effective radiated power (watts) 1,2,4
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	\3\ 1,000

\1\ Power is given in terms of effective radiated power (ERP).
\2\ Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.
\3\ Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).
\4\ Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

29. Section 90.653 is removed.

30. Section 90.658 is removed.

31. Section 90.693 is amended by revising paragraphs (b) and (c) to read as follows:

§ 90.693 Grandfathering provisions for incumbent licensees.

(a) * * *

(b) Spectrum blocks A through V. An incumbent licensee's service area shall be defined by its originally licensed 40 dB[mu]V/m field strength contour and its interference contour shall be defined as its originally-licensed 22 dB[mu]V/m field strength contour. The "originally-licensed" contour shall be calculated using the maximum ERP and the actual height of the antenna above average terrain (HAAT) along each radial. Incumbent licensees are permitted to add, remove or modify transmitter sites within their original 22 dB[mu]V/m field strength contour without prior notification to the Commission so long as their original 22 dB[mu]V/m field strength contour is not expanded. Incumbent licensee protection extends only to its 40 dB[mu]V/m signal strength contour. Pursuant to the minor modification notification procedures set forth in 1.947 (b), the incumbent licensee must notify the Commission within 30 days of any change in technical parameters for stations that are authorized under a waiver of 90.621 (b)(4), or that are authorized under 90.621 (b)(5).

(c) Special provisions for spectrum blocks F1 through V. Incumbent licensees that have received the consent of all affected parties or a certified frequency coordinator to utilize an 18 dB[mu]V/m signal strength interference contour shall have their service area defined by their originally-licensed 36 dB[mu]V/m field strength contour and their interference contour shall be defined as their originally-licensed 18 dB[mu]V/m field strength contour. The "originally-licensed" contour shall be calculated using the maximum ERP and the actual HAAT along each radial. Incumbent licensees seeking to utilize an 18 dB[mu]V/m signal strength interference contour shall first seek to obtain the consent of affected co-channel incumbents. When the consent of a co-channel licensee is withheld, an incumbent licensee may submit to any certified frequency coordinator an engineering study showing that interference will not occur, together with proof that the incumbent licensee has sought consent. Incumbent licensees are permitted to add, remove or modify transmitter sites within their original 18 dB[mu]V/m field strength contour without prior notification to the Commission so long as their original 18 dB[mu]V/m field strength contour is not expanded. Incumbent licensee protection extends only to its 36 dB[mu]V/m signal strength contour. Pursuant to the minor modification notification procedures set forth in 1.947 (b), the incumbent licensee must notify the Commission within 30 days of any change in technical parameters for stations that are authorized under a waiver of 90.621 (b)(4), or that are authorized under 90.621 (b)(5).

(d) * * *

32. Section 90.737 is removed.

33. Section 90.743 is amended by revising paragraphs (a) and (c) to read as follows:

§ 90.743 Renewal expectancy.

(a) All licensees seeking renewal of their authorizations at the end of their license term must file a renewal application in accordance with the provisions of § 1.949. Licensees must demonstrate, in their application, that:

(b) * * *

(c) Phase I non-nationwide licensees have license terms of 10 years, and therefore must meet these requirements 10 years from the date of initial authorization in order to receive a renewal expectancy. Phase I nationwide licensees and all Phase II licensees have license terms of 10 years, and therefore must meet these requirements 10 years from the date of initial authorization in order to receive a renewal expectancy.

APPENDIX B

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this Report and Order and Further Notice of Proposed Rulemaking (*Further Notice*). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Further Notice* provided in paragraph 71 of the item. The Commission will send a copy of the *Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[2] In addition, the *Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

2. In the Report and Order, we revise the Broadband PCS transmitting power rule by eliminating the transmitter output power limit portion of that rule. We note, however, that various proposals before us concerning the radiated power portion of the rule (EIRP limits), particularly those introduced into the record by CTIA's recent *ex parte* filing, give rise to practical and technical concerns that we believe should be further evaluated and addressed before we act on these proposals. Although it appears that some of these radiated power proposals have considerable merit, especially as applied across various bands or services in a harmonized fashion, we find that a more complete record would assist us in properly analyzing the technical details and specifics needed to craft a clear and workable radiated power rule that is not unduly burdensome. Accordingly, in this *Further Notice*, we ask a number of questions on the details of the CTIA proposals for changes to the broadband PCS radiated power limits. In addition, we consider whether these proposals should be applicable to those Part 22 and Part 27 services that operate under a flexible regulatory framework similar to Part 24 Broadband PCS. Finally, we also seek comment on possible changes to other technical rules that may be appropriate if we adopt changes to the radiated power rules, as explained further below.

B. Legal Basis

3. The potential actions on which comment is sought in this *Further Notice* would be authorized under Sections 4(i), 7, 11, 303(c), 303(f), 303(g), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), 303(r), and 332.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

4. The RFA requires that an initial regulatory flexibility analysis be prepared for notice-and-comment rulemaking proceedings, unless the Agency certifies that "the rule will not, if promulgated, have

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *See id.*

a significant impact on a substantial number of small entities."[4] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[5] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[6] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[7] A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[8] This IRFA describes and estimates the number of small entity licensees that may be affected if the proposals in this *Further Notice* are adopted.

5. **Small Businesses**. Nationwide, there are a total of 22.4 million small businesses, according to SBA data.[9]

6. **Small Organizations**. Nationwide, there are approximately 1.6 million small organizations.[10]

7. **Small Governmental Jurisdictions**. The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[11] As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.[12] This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

8. We have included small incumbent local exchange carriers in this present RFA analysis. As noted above, a "small business" under the RFA is one that, inter alia, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation."[13] The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent local exchange carriers are not dominant in their field of operation because any such dominance is not "national" in scope.[14] We have therefore included small incumbent local

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[4] 5 U.S.C. § 603(b)(3).

[5] *Id.* at § 601(6).

[6] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

[7] Small Business Act, 15 U.S.C. § 632 (1996).

[8] 5 U.S.C. § 601(4).

[9] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[10] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[11] 5 U.S.C. § 601(5).

[12] U.S. Census Bureau, Statistical Abstract of the United States: 2000, Section 9, pages 299-300, Tables 490 and 492.

[13] 15 U.S. C. § 632.

[14] Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (May 27, (continued....)